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EDITORIAL.

ANNOUNCEMENT.

With this number THE AMERICAN JOURNAL OF OPHTHALMOLOGY enters upon its thirteenth year of existence. As stated in the last number, it, furthermore, is from now on under the sole and absolute control of its editor.

In order to enhance the usefulness of the Journal, the editor, besides enlarging its space, has determined on certain changes, which he thinks the readers will appreciate.

In the future, while giving as much space as possible to original matter, there will be an *Ophthalmic Digest*, in which will be given an early review of current ophthalmic literature; and *Ophthalmic Clinics*, in which will be collected short reports of cases of especial interest from the different leading clinics of the country.

In his endeavor to maintain and further the standing of THE AMERICAN JOURNAL OF OPHTHALMOLOGY, the editor will be actively assisted by the work of Dr. J. E. Jennings, of this city, and a staff of able collaborators.

The editor himself will give a series of papers on original investigations in histology and pathology, like the one in the present number, illustrated by micro-photographs.

In announcing these prospects we hope, not only to retain

all the former subscribers, the valuable aid of our collaborators and the good-will of the general ophthalmic public, but to add to each and every one of these groupes.

In the future, authors of Original Articles will receive free 100 reprints (without cover) of their respective articles, instead of 25 copies of the Journal, as heretofore. Any additional numbers and covers wished for, will be charged with the paper and presswork only. As is customary, such a desire should be expressly written on the manuscript.

No more articles will be received as original, unless they are *exclusively* given to this Journal.

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ORIGINAL ARTICLES.

ON E. TREACHER COLLINS' SO-CALLED GLANDS OF THE CILIARY BODY.

[WITH MICRO-PHOTOGRAPHS.]

BY ADOLF AL', M.D.,
OF ST. LOUIS, MO.

In Volume XI of the "Transactions of the Ophthalmological Society of the United Kingdom," Mr. E. Treacher Collins published an article "On the Glands of the Ciliary Body." As such he considers certain projections which spring from the outer surface of the pigment, or uveal, layer of the ciliary body. The function, he assigns to them, is the secretion of the aqueous humor.

This article, although, it seems, little read, was the more worthy of note, as its author had, as the first, methodically bleached the uveal pigment and had succeeded in demonstrating the fact, that the pigmented layer of the ciliary body, as well as that of the posterior surface of the iris, consists of epithelial cells. Although this was exceedingly probable, even all but certain, it was proven to be a fact only by his bleaching process. Whoever has succeeded in bleaching the uveal pigment in human eyes, has undoubtedly found the conditions as described by E. Treacher Collins and, I think, we owe him lasting thanks for having introduced this aid to the study of the histology and pathology of the eye.

In almost every section of the ciliary body, whether meridional or æquatorial, whether from the newly born or the adult, whether from a blue or a brown eye, whether from a normal or a pathological eye (in which the tissues concerned have not been destroyed by the pathological process) a varying, but always a comparatively large, number of small tongue-, club-, or pear-shaped projections from the outer surface of the

pigment layer can be found. (See Fig. 1). In some sections these projections are larger, than in other specimens, and sometimes they are apparently wanting. They are situated, more particularly, or, are at least more easily seen, in the anterior part of the pars non-plicata and in the posterior part of the pars plicata of the ciliary body. They are probably rarer, certainly more difficult of demonstration, in the ciliary processes. In this region, in fact, I have found these projections but rarely and only in æquatorial sections. The difficulty of recognizing them in this region lies in the endless curvings of the ciliary processes, which, when cut obliquely may produce similar pictures which, however, are fallacious. I speak solely of the solid projections on the outer surface of the pigment layer.

I fully agree with Collins on this subject, and the existence of these projections, especially where the pars non-plicata joins the pars plicata and back to the ora serrata, is undoubted. Furthermore, in most of my sections they are so numerous that the statement made by J. Griffith (*Ophthalmic Review*, August, 1894), that there are but "two or three" such structures in a single section, can not possibly be reconciled with the facts as I have seen them in a very large collection of specimens, examined particularly with regard to this point. How to explain this discrepancy I do not know, unless Griffith speaks of something totally different from what he intends to discuss. His statement is the more remarkable, as Collins' article is accompanied by excellent micro-photographs of some bleached sections. The accompanying micro-photographs of of my own (see Figs. 2, 3, 4), may add to his testimony.

In order to see these structures which Collins has termed the glands of the ciliary body, it is, however, not necessary to bleach the sections. (See Fig. 1). Bleaching simply shows that the processes consist of the same cells as the pigment layer of the ciliary body and are in direct connection with it.

Certain pathological conditions, described by me many years ago, having been adduced by Collins and certain, rather unparliamentary remarks, having been made by Griffith about the "theory brought forth by me and elaborated by Collins," I have given a great deal of time and labor to the study of this question in unbleached and in bleached sections, made in æquatorial, meridional and oblique directions.

To what I have written before I have not the space to revert. Yet, if the reader will refer to my paper "On Pathological New-Formation of the Pigment-Epithelium" in Vol. VI, *Archives of Ophthalmology and Otology*, and to my book "On the Histology and Pathology of the Human Eye," he will find that, contrary to Griffith's idea, I have never spoken of *glands* in this connection, but always of *gland-like* structures. It will, furthermore, be evident to the reader, that Collins can not have elaborated my theory, because I had offered none with regard to these gland-like structures. Griffith, in his paper, however, offers a theory with which he puts himself on record in the following words:

"Having, as I think, refuted in the main the hypothesis expounded by Collins, I should not feel, I had done so without prejudice, could I not attribute some function to the ciliary glands which have been robbed of their colors. I have found them to exist in greater numbers and of large size in dark-brown eyes; in blue eyes they are present but much less prominent; and in the eyes of albino rabbits, they are not to be found. It strikes me forcibly as highly probable that they control the amount of pigment in the eye and regenerate it as Nature demands."

It should have been interesting to hear, how these little projections in the ciliary body are thought to regulate the pigment formation in the eye—but here we are left to our own thoughts and I confess, I do not see, what explanation Griffith may offer.

In all my former reports on this and similar subjects, I have rigorously tried to give the facts unvarnished as I saw them, and I shall do so now. The photographic illustrations may be used as a control.

In the first place, a few words, regarding the bleaching process. When reading Collins' description of it, this seems to be a very simple affair, yet I have found it to be quite different. I have also tried Griffith's and other methods suggested by my friend, Dr. O. Curtmann, Professor of Chemistry, Missouri Medical College, yet I have always returned to Collins' method, now and then slightly modified. The time in which the section will be thoroughly bleached varies considerably and can not, in my experience, be definitely stated. The action of the chlorine and the acid produce a disagreeable

brittleness of the tissues, so that great patience and care are necessary in handling them. Yet, even after I had learned to overcome all this and to get a well-bleached and well stained section on the slide, the most aggravating trial was to clear up the specimen. As soon as a drop of oil of cloves was put on it, it would fly to pieces, and many and many a fine section have I thus lost. This accident can only be prevented by putting a drop of the oil on the coverglass and putting this quickly over the specimen. Even then some especially fine specimens are spoiled in a few days, by the pressure of the cover-glass alone.

With patience, perseverance and care it is, however, possible to succeed well in bleaching the uveal pigment altogether, and then in staining and mounting such specimens.

In such bleached specimens of the ciliary body and iris the epithelial cells are seen exactly as described by Collins.¹ (See Figs. 5, 6).

The structures, which he called the glands of the ciliary body, appear also (see Figs. 2, 3, 4), as described by him correctly in the following words:

"From my bleached sections I find that this layer from the root of the iris to the ora serrata consists of a single row of somewhat flattened cells projecting from the outer surface of which are numerous little processes, each composed of a group of cells. These processes vary in size and number in different parts. Thus in the anterior portion of the plicated part they are small, few and far apart, confined to the depressions between the ciliary processes, none being situated at their apices. In the posterior portion of the plicated part and at its junction with the non-plicated part, they are the largest and most numerous. They present here a very striking appearance, being pear-shaped, connected by their stalks with the surface and having their rounded ends projecting towards the ciliary muscle. Some of them can be made out to be composed of two parallel rows of cells. In the non-plicated part of the ciliary body they lose their pyriform outline, are smaller and more widely separated. They give rise to the elevations and depressions in the lamina vitrea which have been described by several observers, forming what Müller termed the reticulum of the ciliary body."

¹Ophth. Hosp. Rep., XIII, Part I, p. 63.

From my own specimens I have to add to this description only, that I have come across a number of such processes, which had two and three short branches, and that in some specimens these processes are much more numerous in the pars non-plicata, than elsewhere. Some of the processes seem to consist of one large cell only, others are composed of five or six and a few, of more cells.

Collins further states: "By the examination and comparison of a large number of bleached and unbleached sections of the ciliary region cut on the flat I have been able to make out that the cells of these projecting processes are arranged in rings with a central lumen. Their tubular character is, however, much better shown when they have become enlarged in pathological conditions."

Here Collins' and my own observations differ materially. The normal processes of the pigment layer of the ciliary body, which Collins termed glands of the aqueous humor, and which Griffith considers as glands regulating the formation of pigment, I can not possibly recognize as special glandular structures. I can not find a single one in my very large collection of sections pigmented or bleached, stained or unstained, which shows a lumen. They are all simply pegs of cells projecting outward from the pigment epithelium layer. I find them, as stated before, in eyes of all colors and considered them folds due to the play of the ciliary muscle like the ridges in the iris (particularly its uveal layer), until I found them also, if less developed, in several eyes of newly born children.

But, whatever these pegs of pigmented cells may finally prove to be, neither their histological structure, nor their place of situation, nor their immense number can, it seems to me, be taken to prove their character as special glands.

Referring again to Collins' words, "their tubular character is, however, much better shown, when they have become enlarged in pathological conditions," I must again disagree, as they (the processes of the pigmented layer) do not become enlarged as a rule. In fact, I have never seen it, and if they became pathologically enlarged I should expect this enlargement to take place in an outward direction. (See Fig. 7).

I suppose, what Collins here refers to are the very cylindrical tubes growing inwards and found especially in cyclitic

membranes, which I have described, and from the description of which, Collins quotes *in extenso*. (See Fig. 8).

From a much enlarged observation on the same subject, I am almost satisfied now, that these tubular cell-cylinders originate in the unpigmented cells of the so-called pars ciliaris retinae. They seem to be the first to grow teat-like into the long and often numerous tubes which may anastomose with each other. The pigment may either be formed by these cells themselves, (on the back of the iris they always contain pigment), or they may take it up from the cells of the pigment layer. Certain it is that the farther advanced tubules (the more recent ones) are unpigmented, while their older parts nearer the pigment layer have become sometimes very darkly pigmented.

These cylindrical tubes show quite frequently an unmistakable gland-like arrangement of their cells around a lumen (see Fig. 9). They originate earliest and most frequently just where the ora serrata joins the so-called pars ciliaris retinae, but they may also start from points farther forwards.

That such tubules may form tumors, I have shown, and Collins has since found similar cases. Whoever has seen such a specimen can not possibly accept Griffith's idea, that we have to deal with "newly-formed lymph channels congested with leucocytes, performing a useful work in clearing away the melanotic debris of disintegrated pigment cells from the site of the recent inflammatory battle—in other words, a process of phagocytosis." (See Fig. 10).

In all these studies I have tried hard, to convince myself of the correctness of Collins' views. This paper with its illustrations shows, I think, why I consider his view of the special glands untenable.

Yet, all that he had so ingeniously said in his paper about the function in health and the role in certain diseases (like serous iritis) played by these glands, can well be applied to the whole cellular covering of the inner surface of the ciliary body with its processes and their endless curves. It seems to me, that the views of Nicati and other observers, that the ciliary part of the retina (so-called) together with the pigmentary epithelium form one large uveal gland which secretes the aqueous humor, is the only acceptable one. Certainly, the filtration of the aqueous through these cell layers is commonly not visible. Yet I have, like Griffith and others, often met





FIG. 1.



FIG. 2.



FIG. 3.

with a number of cells, in a specimen of this region, which contained evidently a clear fluid, by which, the cell-wall was completely filled. Such a condition I have most frequently seen in the pars non-plicata and a few times in the ciliary processes, but apparently always affecting the cells of the so-called pars ciliaris retinæ alone.

I have, however, lately found in the bleached sections of several eyes such a condition to affect *both* layers of the cellular covering of part of the ciliary processes. Almost all of these cells appear to be changed into vesicles containing, besides their nucleus, a perfectly clear fluid which is not stained by the hæmatoxyline-eosine process to which these specimens were subjected. (See Fig. 11). Perhaps, we have in these specimens, examples of how these cells may become dropsical, that is, distended with the very fluid which in the norm is filtered through them, when this filtering process is interfered with. These specimens all come from glaucomatous eyes. The explanation just given as regards this dropsical condition seems to me to be the only natural one, and it seems to me, furthermore, that from such a pathological condition we can better form a correct idea of the manner in which under normal conditions the filtration of the aqueous humor takes place, than from any experiments.

LEGENDS DESCRIPTIVE OF ILLUSTRATIONS.

FIG. 1.—Section through the pars non-plicata of the ciliary body of an injured eye with cyclitis showing the pigmented pegs on the outer surface of the uveal layer, which E. Treacher Collins considers the glands of the aqueous humor.

FIG. 2.—The pigmented cell-pegs of the uveal layer in the region where the pars non-plicata joins the pars plicata of the ciliary body, bleached by E. Treacher Collins' method, showing their various shapes. The so-called retinal layer of the ciliary body is not shown in the cut; it lies on the lower side.

FIG. 3.—Part of the pars non-plicata of a ciliary body, bleached. In this specimen the so-called retinal layer of the ciliary body can be easily recognized below the cell-pegs springing outward from the uveal layer. This specimen shows in how large a number these cell pegs may be found in some eyes.

FIG. 4.—A few of the cell-pegs (E. Treacher Collins' so called glands of the aqueous humor) seen under a high magnifying power, showing that they consist of a few epithelial cells, closely adherent to each other. There is no lumen. Below can be seen the nuclei of the cells of the so called retinal layer of the ciliary body.

FIG. 5.—Part of the ciliary body and root of the iris from the normal eye, bleached by E. Treacher Collins' method. It shows the two rows of cells covering the inner surface of the ciliary body and passing over onto the iris unchanged. The so-called retinal layer of cells of the ciliary body, is unpigmented; when it has reached the posterior surface of the iris, it is pigmented and forms what is usually termed the uveal layer of the iris.

FIG. 6.—The same as Fig. 5, under a much higher magnifying power, showing very plainly the two layers of cells (retinal and uveal) covering a ciliary process (below) and passing onto the posterior surface of the iris. (The pigment is bleached by E. Treacher Collins' method).

FIG. 7.—From an eye suffering from chronic irido-cyclo-chorioiditis. There is a dense cyclitic membrane into which numerous pigmented tubular and gland-like structures grow just in front of where the ora serrata joins the retinal part of the ciliary body. E. Treacher Collins' so-called glands of the aqueous humor are seen, unchanged, on the outer side of the uveal pigment layer and are not concerned in the new growth formed on its inner side.

FIG. 8.—Injured eye with cyclitis and detachment of the anterior part of the chorioid. The ciliary muscle to the right side (not visible in cut). The specimen shows what an enormous number of tubular excrescences from the ciliary body may be formed occasionally on its inner side and grow into a cyclitic membrane.

FIG. 9.—Is part of the lighter (left hand) portion of Fig. 10. It shows, and I want to distinctly emphasize that no retouching of any kind has been done, that the tubular excrescences, when cut obliquely or transversely, show often a distinct lumen, like glands. In this part all the tubules are made of unpigmented cells. This is the more recent growth of tubules lying farther inward toward the axis of the eye.



FIG. 4.



FIG. 5.



FIG. 6.



FIG. 7.



FIG. 8.

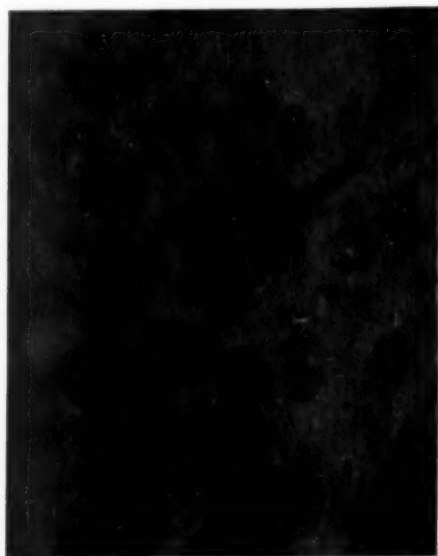


FIG. 9.



FIG. 10.

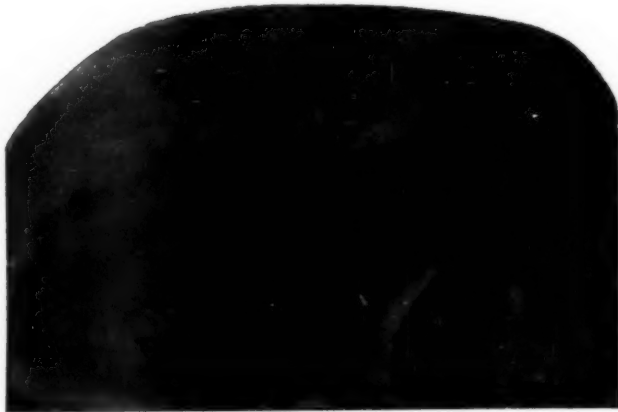


FIG. 11.

FIG. 10.—This is part of the tumor consisting of pigmented and unpigmented tubular structures as described by me and termed an adenoma by E. Treacher Collins. From Fig 9, it may be seen, that these tubular structures often show a distinct lumen, like glands. In this small photograph this fact is not apparent, yet the pigmented tubules with a high magnifying power appear very much like the unpigmented ones in Fig. 9.

FIG. 11.—Part of the ciliary processes from an eye blinded by glaucoma. Bleached by E. Treacher Collins' method, and stained with hæmatoxyline-eosine. The micro-photograph shows plainly that the uveal and the retinal layer of cells are both dropsical; that is, their cells being unable to discharge the clear fluid (aqueous humor) normally filtered through them, are filled with it and distended so as to give them the appearance of vesicles. The nuclei of the uveal cells lie near their outer surface, those of the retinal cells near their inner surface.

A MODIFIED COVER-CHIMNEY.

BY JAMES THORINGTON, M.D.,

Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic, Etc.

In Jackson's method of skiascopy, the original source of light is placed close to the eye of the observer. To cut off the glare he devised a metal (sheet iron) cover-chimney which fits easily over the glass-chimney of the Argand burner. A round opening, one centimeter in diameter, is placed six centimeters from the lower edge of the cover.

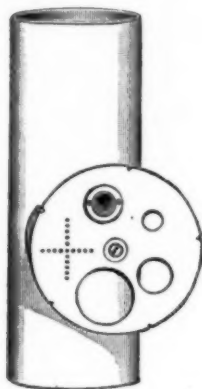
As an improvement over this I had made about a year ago, an asbestos chimney, for which I claim two advantages:

1. A draft of air may strike the abestos with impunity, as it does not chill and cause a break of the inner glass-chimney, the broken glass cutting the mantle of the Welsbach, as has happened repeatedly with the writer in the use of the metal chimney, thus putting an end to further examinations until repairs were made.

2. The lower part of the abestos does not get so warm but that the chimney may be removed without burning the fingers if it is desired to use the same light for purposes other than skiascopy.

As a modification of my asbestos chimney, Messrs. Wall and Ochs, of this city, have added their revolving disk, with certain changes, at my suggestion.

The chimney as formerly made had but the one round opening (one centimeter in diameter), whereas the revolving disk permits of five changes for as many purposes, and is so



secured to the chimney that by means of a ratchet it will remain in any position desired.

The five changes as made by the disk are as follows:

(1) The one centimeter opening fulfills all the purposes of the original chimney.

(2) The two centimeter opening permits greater freedom of movement on the part of the observer, without moving the light.

(3) The three centimeter opening may be used as a source of light by the concave skiascope, or for the ophthalmoscope, otoscope, etc.

(4) A round section of cobalt blue glass for the chromatic-aberration test of ametropia has been added, as likewise:

(5) The perforated disk, with perforations and spaces each 1.45 millimeter, to test for astigmatism at one meter distance.

This combination obviates the removal of the chimney, except in rare instances, and its great utility is my excuse for presenting it.

To Messrs. Wall and Ochs, the makers of this modified chimney, I am indebted for the accompanying illustration and their careful workmanship.

CLINICAL MEMORANDA.

FOUR CASES OF ALBINISM.

BY J. ELLIS JENNINGS, M.D.,

OF ST. LOUIS, MO.

CASE I.—Mr. Charles W, clerk, aged 30, is a well-built man of medium size, and has always enjoyed good health. There is a total absence of coloring matter in hair, eyebrows, lashes and eyes. The pupils are of medium size and react well to light. A reddish reflex is observed, and there is marked nystagmus. Distant vision with correction, —sph. 9.00 D=²⁰/_{LXX}.

As the question of heredity is an interesting one, I made inquiry as to the family history. The complexion of his father, mother and sister is about the average. Three first cousins of his maternal grandmother were albinos. I failed to ask whether his father and mother were cousins.

The patient volunteered the following statement as accounting for his peculiar defect. About one month before he was born his mother was greatly frightened by one of the albinos, above mentioned, coming suddenly into the room and rousing her out of a sound sleep. At another time the father considerably shocked the mother by stating that if their child should be an albino he would knock it on the head.

CASE II.—Miss A., teacher, aged 25, is of medium size, and in good health. There is a total absence of pigment in the hair and eyes. Her sight is very imperfect, but as she was not a patient the refraction was not obtained. There is marked nystagmus. The family history is as follows: Her father and mother are first cousins. The father has light hair and blue eyes. The mother has brown hair and gray eyes. Of five children, all girls, the subject is the only albino. Three sisters have light hair and blue eyes, and the other sister has dark hair and brown eyes. As far as the lady knows, no relative, near or distant, has had this peculiar defect.

Dr. Albyn L. Adams, of Jacksonville, Ill., has very kindly

sent me notes of the two following cases, which he has observed, and states that it was impossible to obtain the refractive error.

CASE III.—M. McQ., 11 years old; a typical albino. Vision $\frac{3m}{L}$ each eye. Has a brother and sister but there is no other albino in the family. Has no albino relatives. Father and mother not related.

CASE IV.—Arthur S., 13 years old. Albino. Vision $\frac{5m}{L}$ each eye. Seven children in the family; one older brother and one younger sister albinos. Father and mother normal, and are not related. No other family history of albinism.

In a paper read before the Ophthalmological Section of the American Medical Association, 1893, entitled: "The Pernicious Influence of Albinism Upon the Eye," Dr. George M. Gould, of Philadelphia, came to the following conclusions:

1. Albinos are normally and even exaggeratedly healthy in mind and body.
2. There is no discoverable influence of heredity.
3. The sole pathological influence of albinism is upon the eye.
4. The ocular evils, photophobia, nystagmus, ametropia (especially high degrees of hyperopic astigmatism) and amblyopia are directly and indirectly caused by the transparency of the iris.
5. The *modus operandi* of this etiological factor lies (*a*) in the brilliant and diffuse illumination of the fundus of the eye by the non-exclusion of the peripheral rays of light by the faulty diaphragm, producing photophobia; (*b*) the lid and muscular pressure upon the globe, resulting from the attempt to exclude the light, produce the refractive anomaly; (*c*) the effort of the groping eye to localize and definitize the evanescent and indistinct image (also the effort to rest an over-stimulated portion of the retina), produces the nystagmus, and (*d*) the amblyopia is a necessary consequence of all these combined factors.
6. Proper correction of the ametropia lessens eye-strain, photophobia, and increases the power of near-range vision.
7. Nystagmus is much lessened by grinding the correction onto blue glass.
8. The younger the age at which treatment is begun, the more promising the result.

OPHTHALMIC DIGEST.

By J. ELLIS JENNINGS, M.D.,
OF ST. LOUIS, MO.

ON THE IMMEDIATE AND REMOTE RESULTS OF CATARACT EXTRACTION.

By C. DEVEREUX MARSHAL.

[The Royal London Hospital Reports, Vol. XIV, Part 1]

As a good deal of confusion exists in the minds of many people with regard to the result obtained after the operation of extraction of senile cataract, I shall give a record of the cases that have been treated at the Royal London Ophthalmic Hospital for five years, from 1889 to 1893.

Before proceeding, it may be well to state briefly the usual method of preparing a patient. The lids and parts around the eye are carefully washed with soap and hot water overnight, and then a pad which has been wrung out in a 1/4000 solution of perchloride of mercury is applied. On removing this the next morning one is able to obtain a good idea as to the state of the conjunctiva; if the lids be gummed together the operation is deferred until a more satisfactory state of things is obtained. If, however, there is nothing to contraindicate the performance of the operation, the eye is anæsthetized with a 2% solution of freshly-prepared cocaine, and the conjunctival sac is washed out with a good stream of either warm boracic or perchloride lotion. The instruments are boiled before being used, and kept in carbolic acid lotion, 1/40. After the operation both eyes are, as a rule, closed for a day or two, and tied up with pads of Gamgee tissue made of the double cyanide wool. The operated eye is kept bandaged for about a week, and after that dark goggles are worn.

NUMBER OF CATARACT EXTRACTIONS, 1889 to 1893.

Total number, - - - -	1519	303.88%
Number with iridectomy, - -	1091	71.64%
Number without iridectomy, -	267	17.67%
Number after preliminary iridectomy, 161	10.67%	

Those cases in which the lens was extracted without an iridectomy are to a certain extent picked cases, that is to say, they include but few where previous disease had existed, or where there was reason to believe that the eye was unhealthy. Those cases in which iridectomy was done at the time of the extraction include a large number of eyes which were to all appearances healthy, except for the presence of the cataract; but there are also in this group a good many cases in which signs of previous disease were manifest.

RESULTS PER CENT. OF EXTRACTIONS.

	V.=from $\frac{6}{8}$ to $\frac{6}{18}$.	V.=from $\frac{6}{24}$ to $\frac{6}{60}$.	V.=from $\frac{6}{60}$ to counting fingers	V.=hand move- ment and less.
With iridectomy. .	76.28	13.53	5.21	4.95
Without iridec- tomy	78.38	13.59	2.47	5.53
Preliminary iridec- tomy	73.20	14.09	6.69	5.99

From this table we see that the operation without iridectomy gives the highest percentage (78.38), but as has been pointed out, the cases included in the list contain but few which show any marked sign of disease. However the group of cases in which the iridectomy was done at the time of the extraction does not fall very short of the preceding (76.28), in spite of the fact that we certainly have a good number of unfavorable cases.

The third group in which preliminary iridectomy was done, does fall considerably below the other two (73.20), but we have here a much higher percentage of unfavorable cases. The fourth column (V.=hand-movement and less) is distinctly in favor of the operation with iridectomy. In the third column V.= $\frac{6}{18}$ to counting fingers) there is a marked difference. These figures go to prove an observation frequently made that cases of extraction without iridectomy when they do well give the best possible results, but should any complications occur they generally do much worse than those in which an iridectomy has been performed.

NUMBER AND RESULTS PER CENT. OF PROLAPSE OF IRIS.

	Number of cases.	V.= $\frac{8}{6}$ to $\frac{6}{18}$.	V.= $\frac{6}{34}$ to $\frac{6}{60}$.	V.= $\frac{5}{60}$ to counting fingers.	V.—hand movements or less	Excisions.
With iridec- tomy . .	0.87	66.66	16.66	—	16.16	—
Without iri- dectomy .	13.86	72.97	10.81	2.70	5.41	8.10

Here, as we should expect, the latter operation will not bear comparison with the former. It has been suggested that the cause of so many prolapses after extraction without iridectomy is the fact that the operation at Moorfields is not done with the patient in bed, and that the movements made after the extraction cause the prolapse. This view, however, can not be substantiated by fact. I have frequently examined a case within an hour or more of the operation, when the patient is back in bed, and provided there has been a good conjunctival flap, found the anterior chamber re-formed, the wound closed, and the pupil circular. Yet a few hours later the iris had become prolapsed and the anterior chamber obliterated. This is probably brought about by the patient squeezing the lids or making some slight movement of the facial muscles sufficient to cause a little extra pressure on the globe; the result is that the wound is opened, the aqueous escapes and carries the iris with it. A secondary iridectomy has then to be done under very unfavorable conditions, and often with the aid of a general anæsthetic.

This is the usual way in which prolapse occurs, but there is still another way, and I now refer to those cases in which the iris remains in position for several days; the pupil is seen to become more and more pushed up to the wound, and finally a prolapse takes place. Many of those cases are due to soft lens-matter having been left behind after the bulk of the lens has been removed; this is out of reach, as it is underneath the iris, and as time goes on it swells and causes a prolapse. The above table shows a prolapse to be a serious complication to

any operation. Of the cases of prolapse of the iris without iridectomy, 83.78% obtained vision between $^{\circ}/_{VI}$ and $^{\circ}/_{LX}$; 5.41% were not benefitted by the removal of the cataract, and the percentage of excisions reached the very high total of 8.10. Now, considering that these are mostly picked cases, the results of the operation can not be considered favorable.

LOSS OF VITREOUS.

With iridectomy, - - - -	3.75 %.
Without iridectomy, - - - -	2.99 %.
Preliminary iridectomy, - - - -	10.81 %.

In the operation with iridectomy at the time of extraction the percentage of cases in, which vitreous is lost is not very much higher (3.73); but after preliminary iridectomy the percentage is much greater (10.81). We must again remember that in this group we have a very large number of unhealthy eyes. The percentage of all cases which fall into the group usually termed "successful" ($V. = ^{\circ}/_{VI} - ^{\circ}/_{LX}$) is 72.91. The percentage of cases whose vision equals hand-movement and less is 14.58, and 4.16% finally come to excision.

GLAUCOMA FOLLOWING EXTRACTION.

With iridectomy, - - - -	0.42 %.
Without iridectomy, - - - -	1.17 %.
Preliminary iridectomy, - - - -	0.61 %.

Of the cases in which the extraction was followed by an increase in the tension of the globe, the lowest percentage belongs to the group in which extraction was done with iridectomy at the same time (0.42), and the highest (1.17) in the cases of extraction without iridectomy.

PERCENTAGE OF AGES OF PATIENTS OPERATED UPON.

Below 50, - - - -	11.53 %.
50-60, - - - -	19.42 %.
60-70, - - - -	41.34 %.
70-80, - - - -	25.27 %.
80-90, - - - -	2.23 %.
90 and upwards, - - - -	0.13 %.

BLACK AND DARKLY COLORED CATARACT.

The number of cases of black and darkly colored cataracts that were extracted is 33. They are commonly found in myopic eyes; of these there were 17, or 51.51%. The percentage of so-called successful cases ($V. = \frac{V}{V_1} - \frac{V}{V_2}$) was 62.95. The percentage of cases in which there was only hand-movements is very high 18.51 and 3.03% were excised. These figures uphold a common impression that the prognosis in cases of black cataract is somewhat unfavorable. A large number of these eyes are really diseased before the operation is undertaken.

SUPPURATIONS AFTER EXTRACTIONS.

With iridectomy, - - - -	1.72%.
Without iridectomy, - - - -	1.78%.
Preliminary iridectomy, - - - -	1.58%.

It is very significant that the cases in which the simple operation was done provides the highest percentage of suppurations. This group, which contains the largest proportion of the healthiest eyes, certainly ought to give the least number of suppurations, supposing that one operation were not beset with more danger than another; but the frequency of prolapse occurring after the operation without iridectomy must be considered a powerful factor in this process.

SYMPATHETIC OPHTHALMIA FOLLOWING EXTRACTION.

Sympathetic ophthalmia following extraction of cataract is, fortunately, a somewhat rare condition. The two operations with iridectomy give almost identical percentages, viz., 0.60 after preliminary iridectomy, and 0.61 after the other operation. There are no cases recorded of sympathetic ophthalmia following extraction without iridectomy; but cases operated upon in this manner are certainly not exempt from this complication.

SECONDARY OPERATIONS.

The secondary operations form an important item when considering the results of extractions. During the five years

there were 404 operations performed for capsular opacities, and there were 108 other secondary operations, besides 29 excisions, making a total of 541, and when expressed in percentages it amounts to 26.79 of secondary operations on the capsule, 7.04 of other secondary operations and 1.90 of excisions. It is a well-known fact, that after simple needling of thickened capsule the vision is materially improved, and, with few exceptions, normal acuteness of sight is obtained, provided that the eye is healthy, and that no secondary complications supervene. A certain number remain unimproved after needling, for the simple reason that the flap of capsule that is cut through, falls back into its original position, and obstructs vision as before. As a rule, a second needling is successful.

What I chiefly want to bring under notice are the secondary inflammatory and degenerative conditions which unfortunately occur after needling of capsule, and which permanently diminish or even destroy the sight.

The two most formidable dangers are *glaucoma* (2.08%), and *suppuration* (1.02%); besides these we get a number of cases in which slow inflammatory changes are set up in the eye, which ultimately diminish or even permanently destroy the sight (5.58%).

The explanation of *increased tension* occurring after needling is by no means easy. It is more often seen in those cases in which the capsule is caught in the wound, though if there be tension before the secondary operation is undertaken, a free division of the capsule sometimes permanently relieves the glaucomatous condition.

As to *suppuration*, it is certainly remarkable to find that this occurs in 1.02% of the cases needled, this being very nearly as high as what occurs after the far more extensive operation of extraction.

Now it is obvious that there must be some source of infection. The actual state of things is this. A minute wound is made in the cornea with a needle, and the capsule is punctured. In most cases the point of the needle at least enters the vitreous, the thickened capsule is then cut or torn by its sharp cutting edge. Now we have a direct communication between the exterior and the vitreous chamber. In some cases I have seen a tag of capsule, or even vitreous, follow the needle, when it is withdrawn, right up to the corneal puncture,

and even when this has not been noticed, I have frequently seen a tag caught in the wound and projecting from it within a day or so, and on careful examination one can often see it running across the anterior chamber back to the deeper parts of the eye. This is a very ready means by which the interior of the eye may become infected, and it is of the utmost importance to recognize it early, so that the tag may be removed; in most instances it can be drawn out and cut off, and then if the puncture be touched with the galvano-cautery it is effectually sealed, and the danger is over. But unfortunately, infection may have already taken place. One is sometimes able to see that the tag is the source of infection, and that purulent infiltration is starting from it.

There is still another danger in the operation of needling. I refer to the physical violence that the iris and ciliary body suffer, when a tough membrane is being divided. Of course the danger is much lessened by using a needle with a very sharp cutting edge, but no matter how sharp the needle may be, it is impossible to avoid tearing the capsule in some cases instead of cutting it. This is seen in its extreme degree, when there happen to be posterior synechiæ present, and all operators must have observed hæmorrhage occur at times from the iris or ciliary body, when a particularly tough membrane which is adherent to the iris is being divided. All eyes will not stand this without showing some signs of resentment, and it is frequently these which give the bad results.

PRACTICAL CONCLUSIONS.

In very briefly reviewing the results of the three chief operations for extraction, there are one or two points that I want to call especial attention to, and also wish, as far as possible, to draw some practical conclusions as to the sort of operation that in equally expert hands is likely to give the greatest percentage of good results, and the least percentage of failures.

There is a complication that almost entirely belongs to one group of cases, and that is secondary prolapse of the iris after extraction without iridectomy. We may almost disregard it in the other group, for it occurs is less than 1%.

Now it is an obvious fact, and one that is abundantly proved by the preceding tables, that prolapse of the iris after

an extraction is a very serious thing. Most of these cases occur within the first twelve hours, and the result is that an operation has to be undertaken as soon as possible. If there is one thing more than another that is essential for success, it is keeping the patient absolutely quiet during the first few days after the extraction. Instead, however, of this, the patient has to submit to another painful operation, or else be put under a general anæsthetic, with all its evil accompaniments. The mental and physical condition under these circumstances are very far removed from the ideal tranquil condition that is so much to be desired. And now to return to the condition of the eye when a prolapse takes place.

The wound is forced open, and the iris is pushed between the flaps. The result of this is:

First—The edges of the wound are kept apart, and therefore no healing can take place.

Second—There is a direct communication from the conjunctival sac into the interior of the globe, and a road is open for the inlet of any septic organisms that may be present.

Third—The iris is not only prolapsed, but is also nipped in the wound, and it is under much the same sort of physical conditions as are met with in the case of a strangulated hernia, and even supposing gangrene does not occur, yet the delicate circulation of the iris is considerably interfered with, the veins become engorged, the iris is swollen and œdematous, and, if left long enough, covered with plastic exudation.

After the prolapse has been removed, the lips of the wound refuse to fall into place again, and it is often most difficult to get the cut edges of the coloboma into position within the eye; this is readily proved by the number of cases in which the iris is subsequently noted as being still entangled. In some cases a small prolapse again takes place. The result is that the eye is in a very dangerous condition, partly owing to the fact that iritis may be easily set up and possibly even sympathetic ophthalmia may occur. And supposing these serious conditions fail to manifest themselves, we almost necessarily have a cystoid cicatrix which is anything but desirable. I do not, of course, mean to suggest that every case of prolapse is bound to be followed by these serious consequences, for there are many in which excellent vision is obtained, but the risk that is run is at once seen by reference to the table showing

the results of prolapse of iris. These figures are sufficient to show what an extremely serious occurrence a secondary prolapse of the iris is.

Should a severe iritis be set up, it is obvious that the chances of getting a blocked pupil would be far greater in a case in which no coloboma existed.

No such marked difference can be drawn between the two groups where iridectomy is done. The fact that the cases in which preliminary iridectomy is performed contain such a much larger percentage of eyes in which previous disease has existed, prevents us putting the two side by side and comparing them. But, taking all things into consideration, it appears that there is but little to choose between the two.

ADVANCEMENT OF THE RECTI MUSCLES.

By DANID McKEOWN, M.D.,
OF MANCHESTER.

The fixation of the muscle to the conjunctiva has made the advancement of the recti muscles a satisfactory operation. Sometimes, however, cases are met with in which the conjunctiva tears so easily that the surgeon would desire to have something more reliable to depend upon. Such an experience about eight years ago led me to adopt for these cases a method which I have employed on several occasions. Instead of severing the muscle close to the eyeball I leave a small portion, sufficient for the placing of a suture, attached to the sclerotic; a single suture is passed (from within outwards) through this and the overlying muscle (drawn into position) and tied; the end of the muscle is then fixed to the conjunctiva in the neighborhood of the cornea by two sutures parallel to the extremity. The incision is vertical and near the insertion of the muscle. The suture through the tendon and the muscle, if it does not absolutely prevent tension upon the conjunctiva, reduces it to a minimum. Where there is no ground for misgivings about the conjunctiva I only use the two conjunctival sutures mentioned above.—*British Medical Journal*.

SOCIETY PROCEEDINGS.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THURSDAY, DECEMBER 12, 1895.

EDWARD NETTLESHIP, F.R.C.S., President, in the Chair.

CLINICAL EVENING.

CASE OF RETINITIS CIRCINATA.

This was shown by Mr. Hartridge. It presented the appearance of a grey degeneration at the yellow spot, with a mass of white deposit in the nerve fibre layer of the retina radiating from the yellow spot region. There was no retinal hæmorrhage; it did not agree in every detail with the recognized appearances, but he thought it was possible an early stage of retinitis circinata.

MR. HOLMES SPICER thought that the character of the white exudation in this case was more like that of renal retinitis than of retinitis circinata. In all the undoubted cases that had been observed there had been a remarkable constancy in the character of the exudation, a grouping quite different from that shown in this case.

DR. HABERSHON asked if there were renal disease or hypertrophy of the heart present.

MR. HARTRIDGE replied that there was no renal disease; the heart had not been examined.

RARE FORM OF NYSTAGMUS.

MR. ERNEST CLARKE showed one case and Mr. Grimsdale three cases of nystagmus in the fixing eye on occlusion of its fellow. In Mr. Clarke's case the vision in the two eyes

together was $\frac{6}{vi}$; when either eye was occluded by placing a card in front of it, the uncovered eye immediately began to oscillate violently. In Mr. Grimsdale's cases the nystagmus was of the same kind but less marked.

DR. HABERSHON had examined Mr. Clarke's patient. There was no sign of actual nerve disease, but he was of a neurotic type; all his reflexes were rather more pronounced than usual.

DR. ORMEROD remarked that the patient was a jeweler, and had been using a single watchmaker's glass to one eye; he thought this may have partly caused the nystagmus. It was not present before he began that work.

SUPERFICIAL PERIPHERAL CHOROIDITIS.

A case of peripheral choroiditis of obscure origin was shown by Dr. Rayner Batten. The patient was a woman aged 40. The choroiditis was limited to the periphery; the outline of the patches was irregular, map-like; the deeper layers were not affected, but the surface layers had a bleached appearance; vision was almost unaffected except for slight contraction of the fields. No evidence of acquired syphilis could be found; the condition was probably a late manifestation of inherited syphilis. It was still progressing.

MR. HOLMES SPICER thought the cause of the disease in Dr. Batten's case was hereditary syphilis, on account of the white lines along the smaller veins, which was a common feature in that affection; for the same reason he thought it had been progressive comparatively recently.

EMBOLISM OF THE CENTRAL RETINAL ARTERY.

MR. MARCUS GUNN related the case of a young adult in whom this lesion occurred, without evidence of cardiac disease. About three weeks ago there was sudden failure of the left eye, with the appearance of a thick film before it, in a young anæmic girl. The vision had somewhat recovered in part of the field since. She was suffering from amenorrhœa at the time. Although there was not much change in the size of the arteries, there was the typical cherry-red spot at the macula. Although at first he regarded it as a case of embolism, he had since thought that it may have been a hæmorrhage into the

optic nerve sheath which had affected the vascular supply of the nerve.

MR. HARTRIDGE had lately seen a case of embolism of the central artery in a healthy man two and a-half hours after its occurrence. There was already œdema of the retina.

DR. BICKERTON had seen a case recently in which there was very little appearance of change in the vessels. The pupil acted to light.

DR. BATTEN had recently seen a case of sudden failure of sight in an anæmic girl, in which there had been little change in the vessels.

MR. DRAKE BROCKMAN had seen some time ago a lady who had a sudden attack of giddiness; she lost the sight of one eye completely. There was no cardiac disease and no albumen, but the patient was anæmic.

RETROBULBAR OPTIC NEURITIS.

MR. HOLMES SPICER showed this patient, a healthy man, 68 years old, whose sight had been failing seven months. He had been a great smoker, but had given it up. There was no history of rheumatism, gout nor syphilis; no locomotor ataxy nor disseminated sclerosis, no renal disease nor diabetes. The optic discs were very pale and slightly swollen. The fields were quite full, but he had a large color scotoma at the fixation point. The case presented all the features of a severe tobacco amblyopia, but recovery had not followed abstention from the poison; he had steadily grown worse.

MR. GRIFFITH thought the pallor in this case was too great for tobacco amblyopia.

MR. JOHNSON TAYLOR thought it was an aggravated case of tobacco neuritis combined with alcoholism.

DR. HABERSHON thought that this case occupied a place midway between tobacco amblyopia and the family cases of optic atrophy described by Leber.

THE PRESIDENT said that cases were occasionally seen in which the action of tobacco did produce much more grave results on the nerve than was customary, and this generally occurred in old men. He thought it not improbable that this case might be one of tobacco amblyopia in an old man.

RECURRENT PARALYSIS OF THIRD NERVE WITH MIGRAINE.

This case was shown by Dr. Ormerod and Mr. Holmes Spicer. A boy, aged 15, had had complete paralysis of the left third nerve when a year old; recovery took place. When he was about 7 years old he had a second attack; since then he had had an attack every nine or ten months. He was subject to "bilious" attacks, with intense headache in the left side, and the paralysis always came on during a bad attack. There was some atrophy of the left optic nerve, and some of the paralyzed muscles have never recovered. The present attack was passing off, but there was still slight ptosis, a dilated pupil, and complete paralysis of the external muscles of the eye supplied by the third nerve.

DOUBLE PTOSIS.

MR. WARREN TAY showed a case of recent double ptosis with loss of convergence and weakness of the internal recti. There was no apparent cause for the attack; at first the movements of the eye were good, but complaint was made of diplopia; later the failure of convergence was marked. Recovery quickly followed the use of iron and *nux vomica*.

PARALYSIS OF BOTH INTERNAL RECTI.

This case was shown by Mr. Treacher Collins. A man, aged 22, had suddenly had paralysis of both internal recti five days ago, accompanied by headache. He was unable to move either eye towards the nose either in looking to one side or in convergence. The pupils acted normally, and vision was good; his gait was unsteady, his knee-jerks were exaggerated, and he became unsteady on standing with his eyes closed.

DR. TURNER remarked on the probable seat of the lesion in the two last cases.

OTHER CASES AND SPECIMENS.

I. Peripapillary Atrophy of Choroid of unusual character, shown by Mr. Donald Gunn. There was a patch of atrophy around the O.D., the retina over the patch being raised, distended, and perfectly clear, with shining lines in it like a cracked ball of glass.

2. Specimen of an Eye lost after removal of a foreign body by the electro-magnet, shown by Mr. Spencer Watson.
3. Specimen of Papilloma of Conjunctiva, shown by Mr. Jessop.—*British Medical Journal*.

SECTION OF OPHTHALMOLOGY, A. M. A.,
ATLANTA MEETING.

The following is a list of the papers promised, so far, for the meeting of the Section of Ophthalmology, A. M. A., at Atlanta, next May. The Chairman, Dr. L. Howe, and the Secretary, Dr. F. Allport, have been working hard to bring about a representative meeting. From this list they are evidently going to succeed. Those wishing to contribute should address either Dr. Lucien Howe, Buffalo, N. Y., or Dr. Frank Allport, Minneapolis, Minn.

Report of Special Committee on "Cases of Optic Nerve Atrophy of Obscure Origin." H. V. Würdemann, Chairman.

1. H. V. Würdemann—"Cases of Optic Nerve Atrophy of Obscure Origin, Occurring in General Diseases."
2. Geo. E. de Schweinitz—"Cases of Optic Nerve Atrophy of Obscure Toxæmic Origin."
3. Harry Friedenwald—"Cases of Optic Nerve Atrophy of Obscure Peripheral Origin."
4. C. W. Kollock—"Cases of Optic Nerve Atrophy of Obscure Origin, Occurring in Cerebral Diseases."
5. C. Dunbar Roy—"Cases of Optic Nerve Atrophy of Obscure Origin, Occurring in Spinal Diseases."

Report of Special Committee on "Detachment of the Retina, Its Etiology and Treatment." R. E. Randolph, Chairman.

6. R. E. Randolph—Subject Unannounced.
7. F. C. Hotz—Subject Unannounced.
8. E. E. Holt—Subject Unannounced.
9. J. E. Weeks—Subject Unannounced.
10. T. E. Murrell—Subject Unannounced.
11. Jno. F. Fulton—"Operative Treatment of Detached Retina."
12. L. F. Lane—"Report of a Case of Detached Retina, Occurring in Chronic Bright's Disease."

- 13 W. T. Montgomery—"Electrolysis in the Treatment of Detached Retina."
- 14 E. Oliver Belt—"Consanguineous Marriages, as a Cause of Retinitis Pigmentosa."
- 15 S. D. Risley—"Secondary Glaucoma."
- 16 Leartus Conner—"Causation and Management of Glaucoma."
- 17 Edward Jackson—"The Value of Homatropine in the Diagnosis of Ametropia."
- 18 T. E. Murrell—"A Study of the Visual Annoyances in Muscular Anomalies of the Eye."
- 19 Casey A. Wood—"The Field of Fixation in Its Relation to Heterophoria."
- 20 Henry Wilson Ring—"Three Cases of Monocular Vertigal Nystagmus."
- 21 F. T. Smith—"The Use of Caustics in Epithelioma of the Lids."
- 22 A. E. Prince—"The Treatment of Ectropion of the Lower Lid."
- 23 Lyman Ware—"Report of One Hundred Cataract Cases."
- 24 A. J. Erwin—"A New Needle for Secondary Cataract."
- 25 G. E. de Schweinitz—"Concerning Central Scotoma With Particular Relation to the Papilla, Macular Bundle and the Cortical Visual Centers."
- 26 E. J. Bernstein—"Sub-Conjunctival Injections."

BOOKS AND PAMPHLETS.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES.

By CHARLES E. SAJOURS, M.D. Vol. V. Philadelphia, New York and Chicago: F. A. Davis Co. 1895.

This exhaustive work of reference, which reflects the greatest credit on the able editor and his excellent corps of associates has again reached us. We highly recommend it to all our readers, especially the able report on ophthalmology from the pen of Ch. A. Oliver.

STUDENTS' AID IN OPHTHALMOLOGY. By GERTRUDE A. WALKER, M.D. Philadelphia: P. Blackiston, Son & Co. 1895. Price, \$1.50.

This, as far as we know, is the first book of its kind written by a lady. Its mission as an aid to the student in ophthalmology, it is well calculated to fulfill. The style is clear and its arrangement very practical. The illustrations are few, but good.

SPECTACLES AND EYEGLASSES. By R. J. PHILLIPS, M.D. Recond Edition, Revised. Philadelphia: Blackiston, Son & Co. 1895. Paice, \$1.00.

To the praise we gave to the first edition of this practical little manual, we can only add, that the second edition is, in some respects, even better.

OPHTHALMIC METHODS EMPLOYED FOR THE RECOGNITION OF NERVE DISEASES. By CH. A. OLIVER, M.D. Philadelphia. 1895.

THE EXAMINATION OF THE EYE FROM THE STANDPOINT OF THE NEUROLOGIST. By CH. A. OLIVER, M.D. Reprinted from "A Text-Book on Nervous Diseases, by American Authors."

This little volume, as well as the pamphlet, sets forth to the student in a very clear and practical manner, what he should know of the eye symptoms in nervous affections, and details the methods of examination by means of the ophthalmoscope, etc., in a concise way. The student of these subjects can not fail to get a great deal of value out of either.

TRAITEMENT DES MALADIES DES YEUX. By DR. A. TROUSSEAU. Paris. Octave Doin. 1895.

In this little volume the author confines himself simply to the treatment, as generally adopted, of the affections of the eye, without going into any theoretical studies. It contains much that is practical and useful.

COLOR-VISION AND COLOR-BLINDNESS. A Practical Manual for Railroad Surgeons. By J. ELLIS JENNINGS. Philadelphia: F. A. Davis Company. 1896.

As we go to press, we have just received a copy of this excellent manual, for which we predict much credit to its author and a large sale. ALT.

"Cataract." By F. B. Tiffany, M.D.

"The Osteopathic Fad." By A. J. Steele, M.D.

"Lid Pressure on the Cornea." By Dr. G. J. Bull.

"A Series of Clinical Cases." By Ch. A. Oliver, M.D.

"Optometry by the Subjective Method." By Dr. G. J. Bull.

"Granular Lids; With Cases in Practice." By A. B. Deynard, M.D.

"Exophoria Curable Without Operation." By G. M. Gould, M.D.

"Chronic Blepharospasm of Hysterical Origin." By W. Reber, M.D.

"An Additional Word to the Treatment of Exophoria." By G. M. Gould, M.D.

"The Aural Masseur in the Manhattan Eye and Ear Hospital." By Ch. Jackson, M.D.

"Inflammation of the Middle Ear with Involvement of the Mastoid; Report of Cases." By W. C. Bane, M.D.

"Conférence Internationale, Concernant le Service Sanitaire des Chemins de fer et de la Navigation," Amsterdam, 20 et 24 September, 1895.

MISCELLANY.

PROP. WICHERKIEWICZ has been called to Kracow.

PROF. SCHLEICH succeeds the late Professor Nagel in Tuebingen.

PROF. THEO. LEBER, of Heidelberg, was awarded the Graefe Prize.

THE TEXT-BOOK of Norris and Oliver is being translated into Chinese.

DR. EDWARD JACKSON, of Philadelphia, will spend the winter in Denver.

DR. T. INOUE, the well-known oculist of Tokio, Japan, died July 10, 1895.

DR. T. E. MURRELL, of St. Louis, has gone to Colorado for his health and expects to be away several months.

PROF. CZERMAK, whose excellent book on Ophthalmic Surgery we had occasion to review, is now Professor at the German University at Prag.

DR. HERBERT HARLAN has been elected Professor of Diseases of the Eye and Ear in the Woman's Medical College of Baltimore, in succession to Dr. Hiram Woods.

PITTSBURG has an Eye and Ear Hospital. Drs. Jos. E. Willets and C. A. Wishart are the Ophthalmic Surgeons in charge; Dr. E. W. Day is the Aural Surgeon, and Dr. E. G. Watson is the Histologist.

CHANGES AT THE PHILADELPHIA POLYCLINIC Dr. Howard F. Hansell, Adjunct Professor of Diseases of the Eye, has been made Professor; Dr. James Thorington, formerly Instructor in Diseases of the Eye, has been made Adjunct Professor.